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The roles of FPGAs in reprogrammable systems

Hatuck, S.

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This paper appears in: **Proceedings of the IEEE**

Publication Date: April 1998

Volume: 86, Issue: 4

On page(s): 615 - 638

ISSN: 0018-9219

CODEN: IEEPAD

INSPEC Accession Number: 5904988

Digital Object Identifier: 10.1109/5.663540

Posted online: 2002-08-06 21:35:51.0

Abstract

Reprogrammable systems based on **field programmable gate arrays** are revolutionizing some forms of computation and digital logic. As a logic emulation system, they provide orders of magnitude faster computation than software simulation. As a custom-computing machine, they achieve the highest performance implementation for many types of applications. As a multimode system, they yield significant hardware savings and provide truly generic hardware. In this paper, we discuss the promise and problems of reprogrammable systems. This includes an overview of the chip and system architectures of reprogrammable systems as well as the applications of these systems. We also discuss the challenges and opportunities of future reprogrammable systems

Index Terms

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Controlled Indexing

field programmable gate arrays **logic design** **reconfigurable architectures**

Non-controlled Indexing

FPGA **chip architecture** **computation** **custom-computing machine** **digital logic** **field programmable gate array**

generic hardware **logic emulation** **multimode system** **reprogrammable system**

Author Keywords

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